

## CALIFORNIA COASTAL COMMISSION

CENTRAL COAST DISTRICT OFFICE  
725 FRONT STREET, SUITE 300  
SANTA CRUZ, CA 95060  
(831) 427-4863

W5b



Filed: 12/20/05  
49th day: 02/07/06  
180<sup>th</sup> day: 06/18/06  
Staff: MW  
Staff report prepared: 02/16/06  
Hearing date: 03/08/06

## COASTAL DEVELOPMENT PERMIT APPLICATION

**Application number** .....3-05-071, Morro Bay Harborwalk / Dune Restoration Project

**Applicant**.....City of Morro Bay

**Project location** .....Morro Bay waterfront along Embarcadero Road and Coleman Drive from Beach Street to Morro Rock (APNs 066-461-11 and 066-331-28)

**Project description** .....Installation of a pedestrian boardwalk and Class I bike trail along waterfront; phased restoration of approximately 20 acres of degraded coastal dunes; and relocation/realignment of Coleman Drive and a portion of Embarcadero Road.

**Local approval**.....Conditional Use Permit (UP0-014), City of Morro Bay, September 19, 2005.

**File documents**.....City of Morro Bay Conditional Use Permit (UP0-014); Morro Bay certified Local Coastal Program; CDP Application File 3-05-071.

**Staff recommendation** ...Approval with Conditions

**Summary:** The City of Morro Bay is a popular central coast visitor-serving destination with over 1 million visitors annually. The City's unique natural environment offers many forms of coastal recreation including birding, fishing, beach combing, surfing, kayaking, and more. Similarly the City's commercial fishing roots and waterfront development provide unique opportunities for shopping, dining, and vacationing among one of central California's true working harbors. The City's certified LCP envisions a series of pedestrian paths, bicycle lanes, and boardwalks providing continuous lateral access connections between popular destinations points from Morro Rock south to Tidelands Park and Morro Bay State Park. This system of paths, bike lanes, and boardwalks will serve as the primary non-motorized routes along the bay and the backbone of the California Coastal Trail through Morro Bay.

In this application, the City seeks authorization to expand and improve upon existing public access and recreation opportunities along the waterfront of Morro Bay, from Morro Rock at the northern end, to Beach Street in the Embarcadero. In addition to maximizing coastal access and recreation opportunities, the project seeks to manage existing use patterns in a manner that will allow for restoration and enhancement of the degraded dune complex that extends from the north end of Morro Bay to Morro Creek. The project will improve the scenic and visual quality of the shoreline while expanding access and recreational opportunities along the waterfront, and protect the habitat values of the dunes.



**California Coastal Commission**  
**March 8, 2006 Meeting in Monterey**

Staff: Mike Watson Approved by:

G:\Central Coast\STAFF REPORTS\2. CCC Meeting Packet\2006\03\W5b-3-2006.doc

The access improvements proposed by the project include:

- An eight foot wide pedestrian boardwalk along the waterfront;
- A twelve foot wide Class I bike path that supports two-way bicycle traffic as well as surrey transports from the Embarcadero;
- Access and recreation amenities along the waterfront trail system, such as public benches, interpretive signing to help direct access, safety railing, bike and surrey racks, lighting, vehicle parking, and habitat oriented landscaping.

In order to accommodate the access improvements and maximize recreational opportunities along the waterfront, the project will realign portions of Coleman Drive and Embarcadero Road. The new roadway alignment will allow the new pedestrian boardwalk and bike path to be constructed within the existing roadway prism along the waterfront, and create a 4.5 acre contiguous recreational use area along the northern shoreline of the bay. Included among the many access and recreation enhancements provided by the project will be improved parking and access to a pocket bay beach that is popular with sunbathers and kayakers. Access to this beach will be maximized, among other ways, by providing a designated parking area and eliminating the need for users to cross Coleman Drive to get to the shoreline. Public safety and access and recreation opportunities will also be enhanced by minimizing conflicts between vehicles, bicyclists, and pedestrians along Coleman Drive.

Despite its clear benefits to coastal access and recreation opportunities, the project raises issues regarding consistency with Coastal Act provisions protecting sensitive habitat areas because the proposed roadway realignment will encroach within a dune formation to the north of the project area. Specifically, the project will result in approximately 0.75 acre of permanent dune loss due to the realignment of the roadways. In addition, a similar amount (0.75 acre) of temporary dune disturbance associated with grading activities will occur in the dunes along Coleman Drive and adjacent to the Morro Rock parking area. Although degraded by exotic plant species and unmanaged access, the approximately 20 acres of dune habitat bounded by Coleman Road, Embarcadero Road, and Morro Creek supports native plant species as well as habitat for the western snowy plover and the Morro Shoulderband Snail, and thereby constitutes an Environmentally Sensitive Habitat Area as defined by the Coastal Act.

Pursuant to Coastal Act policy 30240, environmentally sensitive habitat areas must be protected against any significant disruption of habitat values and only resource dependent uses are allowed within such areas. To avoid a significant disruption of the adjacent dune habitat, staff has worked closely with the applicant to minimize project encroachments within the dunes, and to strengthen the dune protection and restoration components of the project. Towards this end, the applicant has revised the project to reduce the amount of new roadway development within the dunes. Recommended conditions of permit approval seek to further reduce disturbance by limiting the width of the roadway travel lanes to 11 feet, reducing the radii of the curves, and reorienting Coleman Drive into an already disturbed area at the rear of Coleman Park. Special conditions also require a precise assessment of the quantity of permanent and temporary impacts to all sandy dune areas as well as detailed site plan and mitigation proposal for



immediate and future restoration of the entire dune complex south of Morro Creek and west of Embarcadero Road.

In order for dune habitat protection and restoration measures to succeed, current sources of habitat degradation must be addressed. As noted above, unmanaged access is currently having a significant adverse effect on the dune habitat. The project will address the need for a clearly delineated, safe, and attractive coastal access route, in a location that will not encourage or be susceptible to continuing disruption of the dunes, among other ways by placing Coleman Drive between pedestrians and the dunes. In this sense, successful restoration and protection of dune habitats requires putting the road in the proposed location. Hence, the proposed roadway alignment is a component of the restoration plan and is a use that is dependent upon the dune resource. The improved management of existing access patterns, in concert with the dune restoration, will result in an overall enhancement of the native dune habitat, consistent with Coastal Act section 30240. Recommended conditions of the permit intended to ensure that these aspects of the project are fulfilled include: installation of symbolic fencing along Coleman Drive and Embarcadero Road extension, prohibiting parking within the road right-of-ways along the dunes, and installing interpretive signing at appropriate locations to inform the public of the sensitivity of the site.

In sum, **staff recommends the Commission approve the project with conditions** requiring the Applicant to provide final plans that minimize the development footprint and avoid dune disturbance to the maximum extent practicable. Special conditions also require submittal and implementation of a public access and interpretive signing plan to direct access and reduce the amount of unmanaged use of the dunes, among other means, by installing symbolic fencing and providing interpretive information regarding the sensitivity of the site. In addition, recommended special conditions require drainage, lighting, and construction plans to reduce water quality impacts, minimize impacts to marine and terrestrial resources from overhead lighting, and avoid/minimize construction-related impacts. Finally, the applicant will be required to revise and supplement its Habitat Protection, Restoration, and Management Program to ensure the success of the habitat restoration efforts over the long run.

With these conditions, the project is consistent with the Chapter 3 of the Coastal Act.



# Staff Report Contents

- I. Staff Recommendation on CDP Application.....5
- II. Conditions of Approval .....5
  - A. Standard Conditions.....5
  - B. Special Conditions .....6
- III. Recommended Findings and Declarations.....10
  - A. Project Description .....10
    - 1. Project Location.....10
    - 2. Project Description .....11
  - B. Coastal Development Permit Determination .....11
    - 1. Environmentally Sensitive Habitat .....11
      - a. Relevant Regulatory Policies.....12
      - b. ESHA Analysis .....12
        - Project Impacts .....14
      - c. ESHA Conclusion.....16
    - 2. Public Access.....17
      - a. Relevant Regulatory Policies.....17
      - b. Access Analysis .....18
      - c. Access Conclusion.....19
    - 3. Water Quality.....19
      - a. Relevant Regulatory Policies.....19
      - b. Water Quality Analysis.....20
    - 4. Visual Resources.....20
      - a. Relevant Regulatory Policies.....20
      - b. Visual Analysis .....21
    - 5. California Environmental Quality Act (CEQA).....21
- IV. Exhibits
  - Exhibit A: Location Maps
  - Exhibit B: Site Plans
  - Exhibit C: Proposed Roadway Realignment
  - Exhibit D: Project Impact Map
  - Exhibit E: Proposed Dune Restoration
  - Exhibit F: Dune Restoration Area per Special Condition 2



## I. Staff Recommendation on CDP Application

The staff recommends that the Commission, after public hearing, **approve** a coastal development permit for the proposed development subject to the standard and special conditions below.

**Motion.** I move that the Commission approve Coastal Development Permit Number 3-05-071 pursuant to the staff recommendation.

**Staff Recommendation of Approval.** Staff recommends a **YES** vote. Passage of this motion will result in approval of the coastal development permit as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

**Resolution to Approve a Coastal Development Permit.** The Commission hereby approves the coastal development permit on the ground that the development as conditioned, will be in conformity with the policies of Chapter 3 of the Coastal Act. Approval of the coastal development permit complies with the California Environmental Quality Act because either: (1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the amended development on the environment; or (2) there are no feasible mitigation measures or alternatives that would substantially lessen any significant adverse effects of the amended development on the environment.

## II. Conditions of Approval

### A. Standard Conditions

- 1. Notice of Receipt and Acknowledgment.** The permit is not valid and development shall not commence until a copy of the permit, signed by the Permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.
- 2. Expiration.** If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.
- 3. Interpretation.** Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.
- 4. Assignment.** The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.



5. **Terms and Conditions Run with the Land.** These terms and conditions shall be perpetual, and it is the intention of the Commission and the Permittee to bind all future owners and possessors of the subject property to the terms and conditions.

## B. Special Conditions

1. **Final Plans. PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT,** the Applicant shall submit for Executive Director review and approval, two full sized sets of revised plans that are in substantial conformance with the preliminary plans prepared by RRM Design Group and submitted for review on January 13, 2006, and that illustrate the following:
- (a) **Roadway Width.** The Embarcadero Road extension and Coleman Drive roadways shall be designed to be no greater than 22' in width. A maximum 2' wide shoulder along the right-of-ways of Coleman Drive and Embarcadero Road extension may be permitted.
  - (b) **Roadway Relocation.** The alignment of Coleman Drive shall be completely contained within the northern portion of Coleman Park to avoid coverage of the sandy areas to the north of the park. Similarly, the alignment of the Embarcadero Road extension shall be contained within disturbed areas currently used as informal parking.
  - (c) **Bike and Surrey Parking.** The final plans shall indicate the precise location of the bike and surrey parking in the Morro Rock parking lot. Termination of the bike path and bicycle parking facilities shall be contained within the existing parking lot area so that there will be no disturbance to adjacent dune habitats during construction, and adequately set back from the parking lot edge as to eliminate the need for future shoreline armoring to protect these public recreational amenities.
  - (d) **Roadway Signing Plan.** The final plans shall include a Roadway Signing Plan that indicates public parking areas, as well as areas where parking shall be prohibited in order to prevent disruption of dune habitat areas (e.g., along the northern shoulder of Coleman Drive and the western shoulder of the Embarcadero Road extension).
  - (e) **Installation of Symbolic Fencing.** The final plans shall detail the type, dimensions, and location of the symbolic fencing that will be installed to manage access in the dunes. Such fencing shall be designed to prevent interference with the passage of light, water, and wildlife, and avoid disruption of coastal views (e.g., post and guy wire type fencing). At a minimum, such fencing shall extend along the entire length of the northern shoulder of Coleman Drive, the western shoulder of Embarcadero Road between Coleman Drive and the informal parking area at the southern bank of Morro Creek.
  - (f) **Interpretive and Access Signs.** The final plans shall detail the type, design, location, and content of the signs that will be installed to educate the public about the area's native habitats, identify the location of established vertical and lateral coastal access routes, and discourage uses



and activities that degrade and damage these habitats. The signing shall be used in conjunction with the symbolic fencing required above to manage access and installed at the following locations: at the pedestrian and bike trailhead near the Duke Intake structure; at the intersection of Coleman Drive and Embarcadero Road; at various intervals along the pedestrian path; the bike and surrey parking lot at Morro Rock; and at the informal parking lot south of Morro Creek.

- (g) **Lighting Plan.** Final Plans shall include a lighting plan that indicates the location, type, and wattage of all light fixtures. All lighting shall be designed and located to prevent illumination of adjacent habitat areas (i.e., Morro Bay and coastal dune complex), and to protect views of the coast and night sky. Accordingly, lighting shall be limited to low-lying bollard style lights along the bicycle and pedestrian trail.

2. **PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicant shall submit to the Executive Director for review and written approval, a final Dune Habitat, Protection, Restoration, and Management Program that is in substantial conformance with the draft Program prepared by RRM Design Group, dated January 2006, and that includes the following:

- (a) A precise assessment of the total quantity of sandy dune habitat areas that will be impacted, both temporarily and permanently, by project construction. This shall include the sandy area directly adjacent to and north of Coleman Park, as well as the areas along the Embarcadero Road extension north of the Dune Energy Intake structure.
- (b) An expanded restoration and mitigation component that details the precise quantity and location of the first phase of dune planting and restoration activities that will be implemented in conjunction with project construction. At a minimum, the first phase of dune planting and restoration shall include all areas disturbed during project construction, and provide an overall restoration area that is four times larger than the area of impact calculated in accordance with section (a) of this condition. In addition, the restoration and mitigation program shall identify:
- the type and location of seeds that will be collected and propagated for use in the restoration area;
  - the application rate (e.g. pounds per acres) for seeding efforts; and
  - Designation of a qualified botanist to supervise the restoration effort.

Submittal of the Mitigation Program shall be accompanied by written evidence that the program has been reviewed by the California Department of Parks and Recreation, California Department of Fish and Game, and the US Fish and Wildlife Service, along with any comments received and the City's response to such comments. Implementation of the program shall not commence until all necessary approvals or authorizations from these agencies have been obtained.

3. **Public Access.** Permittee shall ensure the public access components are constructed in conformance with the approved final plans, and will be available for public use in perpetuity. Specifically, the



pedestrian boardwalk, bike trail, and all associated access connections, as well as the parking adjacent to the Duke Energy intake building and the City's commercial fishing T-Piers, shall be open and available for free general public use 24 hours a day, 365 days a year for the life of the development.

**4. Construction and Drainage Plan. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT,** the Applicant shall submit for Executive Director review and approval, a Construction, Drainage, Erosion, and Sediment Control Plan that incorporate the following provisions:

- (a) **Implementation of Best Management Practices During Construction.** The Drainage and Erosion Control Plans shall identify the type and location of the measures that will be implemented during construction to prevent erosion, sedimentation, and the discharge of pollutants into Morro Bay during construction. These measures shall be selected and designed in accordance with the California Storm Water Best Management Practices Handbook. Among these measures, the plans shall limit the extent of land disturbance to the minimum amount necessary to construct the project; designate areas for the staging of construction equipment and materials, including receptacles and temporary stockpiles of graded materials, which shall be covered on a daily basis; provide for the installation of silt fences, temporary detention basins, and/or other controls to intercept, filter, and remove sediments contained in the runoff from construction, staging, and storage/stockpile areas; and provide for the hydro seeding of disturbed areas immediately upon conclusion of construction activities in that area. The plans shall also incorporate good construction housekeeping measures, including the use of dry cleanup measures whenever possible; collecting and filtering cleanup water when dry cleanup methods are not feasible; cleaning and refueling construction equipment at designated off site maintenance areas; any the immediate clean-up of any leaks or spills.

The plans shall further indicate that **PRIOR TO THE COMMENCEMENT OF GRADING,** the applicant shall delineate the approved construction areas with fencing and markers to prevent land-disturbing activities from taking place outside of these areas.

- (b) **Construction Staging / Access.** The Construction Plan shall include construction and staging zones, and shall be limited to the minimum area required to implement the approved project. Construction and staging shall minimize encroachment onto the existing roadway and dunes by using, for example, existing disturbed areas (e.g., undeveloped areas in Coleman Park) for storing equipment and materials. Consistent with these restrictions, public access shall be disrupted as little as possible during construction. Signed detours shall be posted and construction activities shall be staged to ensure that public access to Morro Rock and the state beach parking lots will be maintained at all times during construction.
- (c) **Post Construction Drainage.** The drainage plan shall identify the specific type, design, and location of all drainage infrastructure and Best Management Practices (BMPs) necessary to ensure that post construction drainage from the project, including runoff from the roadway,



paths, parking areas, and other impervious surfaces, does not result in erosion, sedimentation, or the degradation of coastal water quality. Such plan shall clearly identify a drainage system designed to collect, filter, and treat all runoff prior to its discharge from the site and to remove vehicular contaminants and other typical urban runoff pollutants<sup>1</sup> more efficiently than standard silt and grease traps. Such plan shall at a minimum provide for:

- (1) The drainage system shall be designed to filter and treat (i.e., a physical and/or chemical reduction of pollutants achieved through active filtration) the volume of runoff produced from each and every storm event up to and including the 85th percentile 24-hour runoff event prior to its discharge to Morro Bay. The drainage system and its individual components (such as drop inlets and filtration mechanisms) shall be sized according to the specifications identified in the California Storm Water Best Management Practice Municipal Handbook (California Storm Water Management Task Force, March 1993);
- (2) The drainage system may include natural biologic filtration components such as vegetated filter strips and grassy swales provided that they are populated with native plant species capable of active filtration and treatment (e.g., rushes). If grades require, check-dams may be used in such biologic filters.
- (3) The drainage system shall include at least one engineered filtration unit to which all drainage shall be directed prior to any discharge from the site. The engineered filtration unit shall be designed to remove, at a minimum, vehicular contaminants, and shall be appropriately sized to handle all parking lot drainage. Such unit may include media designed to remove expected contaminants.
- (4) All vehicular traffic and parking areas shall be swept and/or vacuumed at regular intervals and at least once prior to October 15th of each year. Any oily spills shall be cleaned with appropriate absorbent materials. All debris, trash and soiled absorbent materials shall be disposed of in a proper manner. If wet cleanup of any of these areas is absolutely necessary, all debris shall first be removed by sweeping and/or vacuuming, all storm drains inlets shall be sealed, and wash water pumped to a holding tank to be disposed of properly and/or into a sanitary sewer system.

The applicant shall be responsible for implementing and maintaining drainage, erosion, and sedimentation control measures and facilities for the life of the project. This shall include performing annual inspections, and conducting all necessary clean-outs, immediately prior to the rainy season (beginning October 15), and as otherwise necessary to maintain the proper functioning of the approved system.

---

<sup>1</sup> Typical urban runoff pollutants describes constituents commonly present in runoff associated with precipitation and irrigation. Typical runoff pollutants include, but are not limited to: paints, varnishes, and solvents; hydrocarbons and metals; non-hazardous solid wastes and yard wastes; sediment from construction activities (including silts, clays, slurries, concrete rinsates, etc.); ongoing sedimentation due to changes in land cover/land use; nutrients, pesticides, herbicides, and fertilizers (e.g., from landscape maintenance); hazardous substances and wastes; sewage, fecal coliforms, animal wastes, and pathogens; dissolved and particulate metals; and other sediments and floatables.



The Permittee shall undertake development in accordance with the approved Plans. Any proposed changes to the approved Plans shall be reported to the Executive Director. No changes to the approved Plans shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is necessary.

### III. Recommended Findings and Declarations

The Commission finds and declares as follows:

#### A. Project Description

##### 1. Project Location

The project site is located along the northern shores of Morro Bay, within the City of Morro Bay on the coast of San Luis Obispo County, California. Public Access and recreation improvements will be constructed along Embarcadero Road and Coleman Drive from Beach Street to Morro Rock, and dune habitat protection and restoration measures will be implemented within the approximately 20 acres of dunes bounded by Coleman Drive, Embarcadero Road, Morro Creek, and the beach. This north end of the bay is very popular with residents and visitors alike for its unique and varied recreational opportunities. Morro Bay hosts over 1 million visitors annually, many of whom eventually make a stop at Morro Rock to gain access to the beach, go surfing, fishing, or just take in the view of the town and its surroundings. The City's certified Land Use Plan describes Morro Rock as the "landmark of the community" and "the most significant visual feature of the area."

North of Morro Rock is the southern most extent of Morro Strand State Beach and the Pacific Ocean. Inland of the active beach is a significant, though degraded, dune structure approximately 20+ acres in size. These dunes extend north to Morro Creek and are bounded by Embarcadero Road extension to the east, and Coleman Drive to the south. The dunes have been degraded by the introduction of non-native plant species and unmanaged access throughout the system. Native dune shrubs are also present, but only in scattered locations and with few individuals. In the 1930's dredged fill material was placed in the area to raise the elevation and create access to Morro Rock. Prior to this activity, Morro Rock was an island with natural tidal channels on both sides. Accordingly, the entire site is within the Commission's retained permitting jurisdiction and subject to the public trust.

Further south along the Embarcadero, the shoreline is more extensively developed with commercial fishing facilities and energy / industrial uses. Residents and visitors can watch fishermen off-loading their catch, take a turn at angling from one of the City's T-piers, or stop in to one of the areas small café's for a bite of fresh seafood. Sweeping views of the bay, sand spit, and commercial fishing facilities dominate. Again, in the 1940's the natural shoreline along the Embarcadero area was altered with the construction of bulkhead and dredging of a shipping channel. As a result, this area too is within the Commission's retained permitting jurisdiction.



## 2. Project Description

The Applicant proposes to expand and improve upon existing public access and recreation opportunities along the waterfront of Morro Bay, from Morro Rock at the northern end, to Beach Street in the Embarcadero. In addition to maximizing coastal access and recreation opportunities, the project seeks to manage existing use patterns in a manner that will allow for restoration and enhancement of the degraded dune complex that extends from the north end of Morro Bay to Morro Creek. The project includes a system of non-motorized transportation links and roadway improvements along the Embarcadero and Coleman Drive. Starting near Beach Street in the Embarcadero, the Applicant proposes to install a pedestrian path that generally follows the shoreline all the way around the north end of the bay to Morro Rock. The approximately three-quarter mile boardwalk will be 8' feet in width and constructed of 2x6 composite decking material. A 42" safety guardrail will be installed along the Embarcadero portion of the boardwalk to ensure public safety. Other access-oriented amenities will also be installed at various intervals and/or at scenic locations along the path. Those amenities include public benches, ADA accessible ramp connections, waste receptacles, interpretive signing, and more. The Applicant intends for the path to be used by pedestrians only, in order to prevent user conflicts with other forms of non-motorized transportation and enhance the access experience.

A proposed Class I bike path will begin at a point just north of the Duke Energy Plant intake building. From this point of beginning, the non-motorized bike path will also somewhat follow the outline of the bay north to Morro Rock where it will terminate near the state lifeguard entrance to Morro Strand State Beach. The Class I bike path will be 12 feet in width and cover a distance of almost one-half mile. The Applicant proposes AC paving surfacing on top of compacted base rock with striping for two-way traffic. The Applicant proposes to install bike and surrey racks at either end of the path (i.e., in the parking area near the Duke intake structure and at Morro Rock).

To accommodate the pedestrian path and bicycle lanes within the existing narrow roadway prism along the waterfront, and generally maximize access and recreation opportunities in the vicinity, the Applicant proposes to relocate Coleman Drive north, within Coleman Park and the degraded dune area west of the Duke Energy Plant. The Applicant also proposes to extend Embarcadero Road approximately 750 feet north along its current alignment and remove the existing dog-leg connecting Coleman Drive. These improvements will create a 4.5 acre park between Coleman Drive and Morro Bay, provide improved safety for pedestrians and bicyclists, and maximize shoreline access and recreation opportunities. Additional improvements include re-striping and resurfacing the parking areas along the Embarcadero and creation of 30+ parking spaces for beach, boardwalk, and bike trail access. The Applicant also proposes to expand ADA accessibility.

## B. Coastal Development Permit Determination

### 1. Environmentally Sensitive Habitat



a. Relevant Regulatory Policies

**Section 30240(a).** *Environmentally sensitive habitat areas shall be protected against any significant disruptions of habitat values, and only uses dependent on those resources shall be allowed within those areas.*

**Section 30240(b).** *Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.*

**Section 30107(5).** *“Environmentally sensitive area means any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and development.*

In addition, the City’s certified LCP contains policies that provide for the protection of environmentally sensitive habitat:

**Policy 11.01** *Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values and only uses dependent on such resources shall be allowed within such areas.*

**Policy 11.02** *Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be site and designed to prevent impacts which would significantly degrade such areas, and shall maintain the habitat’s functional capacity.*

**Policy 11.09** *The recreational use of rare or endangered species habitats shall be minimal (i.e., walking, bird watching). Protective measure for such areas should include fencing and posting so as to restrict, but not exclude, use by people.*

**Policy 11.10** *Only native vegetation shall be planted in the habitat areas of rare or endangered species. Where feasible, use of drought tolerant plants of a native variety shall be used in coastal zone areas.*

**Policy 11.20** *Coastal dune habitats shall be preserved and protected from all but resource-dependent, scientific, educational and passive recreational use. Disturbance or destruction of any dune vegetation shall be prohibited, unless no feasible alternative exists, and then only if revegetation is made a condition of project approval. Such revegetation shall be with native plants propagated from the disturbed sites or from the same species at adjacent sites.*

b. ESHA Analysis

The site of the proposed development is adjacent to a relatively large (approximately 20 acres) contiguous coastal dune structure at the south end of Morro Strand State Beach. The dunes front the Pacific Ocean and generally extend south from Morro Creek to Morro Rock. Coleman Drive separates



the dune structure from Morro Bay. As noted in the mitigated negative declaration approved for the project by the City, the site nearest the proposed development was significantly altered in the 1940's when dredged fill material was brought in to raise the elevation of the area and create a land connection to Morro Rock. Prior to this activity, Morro Rock was an island with natural tidal channels [to Morro Bay] on both sides. European beach grasses were imported to stabilize the fill material and control sand movement.

Although classified as "sand dunes," the topography is relatively flat compared to neighboring dunes (e.g., Pismo Beach and Nipomo dunes) that have a more undulating topography with hummocks and a large sand berm along the beach. The habitat is described as highly disturbed sand dunes, populated with non-native, invasive dune grasses and ice plant, though there are native dune shrubs present at scattered locations within the dunes. These primarily occur as individuals or small groups of plants, but there are isolated areas that support a larger diversity of native dune plant species including beach bur, beach evening primrose, coast silver lupine, mock heather, coastal goldenbush, coyote bush, California aster, and Blochman's groundsel.

Coastal dune scrub in and around Morro Bay is also known to support a variety of wildlife species including Morro shoulderband snail. The project site is within the range of the Morro shoulderband snail - a federally listed endangered species - though it is not located within designated critical habitat for this species. Protocol level surveys for Morro shoulderband snails were conducted in 2001, which included the dune area directly west of the Morro Bay Power Plant and east of Embarcadero Road, near the proposed road extension. Morro shoulderband snail shells were found at several locations within the southern extent of the dune scrub area, but no living snails were found. Additional surveys for the snail were conducted in 2003 for the dune area west of Embarcadero Road, near the relocation site for Coleman Drive and the proposed access improvements. No live snails or snail shells were found at any time during the surveys in or around the project site. The biological report prepared for the project concluded that although Morro shoulderband snails have been documented near the proposed project site, they are not currently present at the site.

Another special status species known to frequent the coastal dunes in and around Morro Bay is the Western snowy plover. Sandy beach and foredune habitat provide foraging and nesting opportunities for this state listed endangered bird. The Pacific coast population of the Western snowy plover has experienced widespread loss of nesting habitat and reduced reproductive success at many nesting locations. Populations of Western snowy plover are most abundant on the Morro Bay Strand State Beach, north of the project site, and along the Morro Bay sandspit, south of the project site. Critical habitat for this species has been designated within or immediately north of the project site by the USFWS; the last known attempt at nesting in this area occurred as recently as 1997. The area proposed for the Coleman Drive re-alignment is located within the southern extent of Critical Habitat, Unit 2 (Atascadero Beach), though the project site is thought not to have suitable habitat for nesting plovers due to the predominance of beach grass and uncontrolled access through the dunes.

Although degraded, this coastal dune area continues to provide important habitat for rare and important native dune plant and wildlife species, and therefore constitutes environmentally sensitive habitat as



defined by the Coastal Act. Successful conservation and recovery of this habitat will be dependent upon the protection and biological enhancement of existing, yet disturbed and restorable dune area.

#### Project Impacts

The purpose of the project is to enhance public access and recreational opportunities along the Morro Bay shoreline, and manage use patterns to allow for successful restoration and protection of coastal dune habitat. In order to effectively restore and protect the 20+ acre dune complex, the applicant is proposing to realign the roadway and install a system of non-motorized transportation routes (i.e., pedestrian boardwalk and Class I bicycle trail) that link Morro Rock, the beach at Morro Strand State Park, and the Embarcadero. Currently, vehicular access exists to these areas, though there are few opportunities for safe pedestrian and bicycle access to the beach access and parking area at Morro Rock. As a result, people opt for a safer and shorter route to the beach through the dunes. As previously mentioned, this unmanaged access is a primary source of habitat degradation. Implementation of the project is expected to increase the quantity and quality of native coastal dune habitat by redirecting human activity away from sensitive areas.

There are, however, both temporary and permanent impacts associated with realigning and extending segments of the existing Coleman Drive and Embarcadero Road (approximately 0.7 acres temporary habitat disturbance and roughly 1 acre permanent dune habitat loss). In addition, the project poses indirect impacts to terrestrial resources due to noise, light, and traffic.

As cited above, Coastal Act Section 30240 prohibits any significant disruption of ESHA and limits development within such areas to uses dependent upon the resource. Similarly, certified LCP policy 11.20 prohibits all but resource-dependent, scientific, educational, and passive recreation uses in coastal dune habitats. The dune restoration activities, including replanting with native plant species and non-native plant eradication, represent resource enhancements and therefore are a permitted use. Construction / installation of the pedestrian path, Class I bike trail, and related access improvements will be constructed within the existing roadway prism along the edge of the Morro Bay and outside of the sensitive resource area. The proposed roadway improvements, however, will encroach into the sandy dune areas west of the Duke Energy Plant. Typically, roadways are not considered resource dependent uses. In this case, however, the proposed roadway realignment is necessary for effective management of access and successful protection and restoration of dune habitats.

The proposed Embarcadero Road extension and Coleman Drive realignment is one of four alternatives that were evaluated in the adopted mitigated negative declaration. The other alternatives were determined to be infeasible because of safety and access concerns, potential significant impacts to sensitive biological resources, or expense. These alternatives include: forgoing the Embarcadero Road extension and realigning Coleman Drive north into the dunes with either a perpendicular "T" intersection or continuous transition with the existing Coleman Drive segment; extending Embarcadero Road and realigning Coleman Drive directly west to the intersection with the existing Morro Rock parking area; a combination of no Embarcadero Road extension and realigning Coleman Drive west to the Morro Rock parking area; and the "no project" alternative. The first alternative does not fully take advantage of the recreational opportunities to combine Coleman Park with Coleman Beach or improve



upon public safety at this location and was thus eliminated from consideration. Extending Coleman Drive directly to the existing Morro Rock parking area was determined to be infeasible because it resulted in a much larger and significant amount of additional dune disturbance. The third alternative was eliminated because it failed to address access and safety issues, as well as introduced significant adverse impacts to the dune habitat. The “no project” alternative would maintain the existing unsafe and inadequate access situation, and fail to provide the access management measures that are essential to the long term protection and restoration of the native dune habitat.

Reducing roadway widths, installation of a Class II bike path (6’ width) instead of a Class I bike path (12’ width), and elimination or reduction in the visual and physical separation between the various travel lane segments could all but eliminate dune impacts, and was initially suggested by Commission staff as a viable alternative. However, it would not accomplish project goals of enhancing and managing public access by creating a safe, dedicated, non-motorized transportation alternative to important and popular recreational destination points. Roadway widths have been reduced to the absolute minimum allowable for the amount of traffic and size of vehicles that frequent the recreational areas in and around Morro Rock without sacrificing public safety. The 12’ wide Class I bike trail is necessary to safely accommodate two-way bike and surrey traffic between the Embarcadero and Morro Rock. Eliminating / reducing the separation between pedestrian, bike, and motor vehicle lanes poses additional safety risks to pedestrian and bike users and degrades the access experience. If the access experience is not safe and/or enjoyable for the users, people will continue to shortcut through the dunes to reach the beach and trample the dune habitat.

Accordingly, the proposed project is the only alternative that addresses public safety concerns, maximizes and manages public access, and results in effective protection and restoration of the coastal dunes. The project will address the need for a clearly delineated, safe, and attractive coastal access route, in a location that will not encourage or be susceptible to continuing disruption of the dunes, among other ways by placing Coleman Drive between pedestrians and the dunes. In this sense, successful restoration and protection of dune habitats requires putting the road in the proposed location. Hence, the proposed roadway alignment is a component of the restoration plan and is a use that is dependent upon the dune resource. The improved management of existing access patterns, in concert with the dune restoration, will result in an overall enhancement of the native dune habitat, consistent with Coastal Act section 30240. Conditions of the permit intended to ensure that the habitat protection and restoration objectives of the project are fulfilled require that final project plans include detailed fencing and signing plans that will direct and inform public access and recreation opportunities in a manner that will maximize protection of adjacent habitat areas.

In addition to limiting development in ESHA to resource dependent uses, Coastal Act Section 30240 prohibits the significant disruption of the habitat. In order to comply with this requirement, the project has been revised and conditioned to limit the project’s encroachments within dune habitat areas, and to provide both short term and long term habitat protection, restoration, and management measures for the approximately 20 acre dune habitat area adjacent to the project. Specifically, final plans must limit overall roadway width to 22’, and maximize opportunities to contain the realigned roadway within previously disturbed areas. In addition, the conditions require that the submitted Dune Habitat



Protection, Restoration, and Management Plan be supplemented to ensure that the first phase of plan implementation includes restoration of all areas disturbed during project construction, and meets the project objective of providing a restoration area that is four times larger than the area of impact.<sup>2</sup> With these conditions, the project is consistent with Section 30240 of the Act.

In summary, one of the main purposes of this proposal is to enhance existing biological resources, both through direct habitat restoration and through public access management and education. Moreover, by realigning the roadway and installing symbolic fencing and interpretive signing, it is expected that the amount of dune intrusion by the public that currently occurs should significantly decrease. The only permanent dune habitat impacts are associated with relocation of the roadways. Realigning the roadways will not only enhance public access, but significantly increase safety for access users adjacent to the roadway. The roadway realignment will also facilitate effective management and protection of the larger dune system. Special Condition #4 identifies appropriate implementation of BMPs during construction to prevent erosion, sedimentation, and the discharge of pollutants into Morro Bay during construction. This condition also establishes parameters for the location of access corridors and staging areas to assure, among other things, that no sensitive habitat areas are used for these purposes. Special Condition #5 has been added requiring submittal of a lighting plan to prevent incidental impacts to surrounding areas (i.e., Morro Bay and coastal dune complex) associated with lighting and glare. These conditions will prevent adverse construction-related and development impacts to adjacent habitat areas as required by Section 30240(b). Therefore, as conditioned, the Commission finds the proposed development consistent with the cited resource protection policies of the Coastal Act.

### c. ESHA Conclusion

The project will protect, restore, and enhance the sensitive dune habitat adjacent to the site by discouraging use of informal paths through the dunes and providing restoration and protection of the dune habitat values. The project includes a phased approach to restoring the approximately 20 acres of dune habitat adjacent to the proposed access improvements, including immediate restoration of disturbed areas at a 4:1 ratio using native plant species taken from local stock; ongoing maintenance of a buffer zone around new planting to ensure newly planted areas aren't out competed by invasive species; and performance criteria to ensure long-term success of restoration of native plant species. As conditioned, the access management and dune protection and restoration measures to be provided by the project constitute resource dependent uses that will result in the overall enhancement of the affected habitat, and are therefore consistent with the certified LCP and the ESHA policies in Chapter 3 of the Coastal Act.

---

<sup>2</sup> The Applicant identified approximately 0.4 acres of permanent impact on dune habitat associated with the road improvements on the west end of Coleman Drive. This estimate did not include any impacts associated with the Embarcadero Road extension or disturbance of the sandy area at the rear of Coleman Park adjacent to the proposed new alignment of Coleman Drive. Although these areas are mainly degraded, development in and around these sites will still result in temporary and permanent impacts to surrounding dune habitat. Based on staff's estimate of the potential project disturbance, the total amount of permanent impact to dune habitat is on order of 0.75 – 1 acre of coastal dune scrub. Accordingly, the proposed 1.75 acre mitigation falls short of meeting the criteria established in the Dune Habitat Protection, Restoration, and Management Program, which calls for restoration at a 4:1 ratio.



## 2. Public Access

### a. Relevant Regulatory Policies

Coastal Act Sections 30210, 30212, 30213, 30220, and through 30221 specifically protect public access and recreation. In particular:

**Section 30210:** *In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.*

**Section 30212(a):** *Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects...*

**Section 30213:** *Lower cost visitor and recreational facilities shall be protected, encouraged, and, where feasible, provided. Developments providing public recreational opportunities are preferred. ...*

**Section 30220:** *Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be protected for such uses.*

**Section 30221:** *Oceanfront land suitable for recreational use shall be protected for recreational use and development unless present and foreseeable future demand for public or commercial recreational activities that could be accommodated on the property is already adequately provided for in the area.*

Coastal Act section 30252 requires new development to maintain and enhance public access opportunities by providing non-automobile circulation and parking facilities:

**Section 30252:** *The location and amount of new development should maintain and enhance public access to the coast by... (3) providing non-automobile circulation within the development, (4) providing adequate parking facilities or providing substitute means of serving the development with public transportation...*

In addition, the following certified LCP policies and contextual information, though not the standard of review, can provide pertinent information and guidance:

**Policy 1.06.** *All accessways shall be properly signed and should conform to Coastal Conservancy / Coastal Commission access standards and guidelines.*

**Policy 1.26.** *Lateral public access along the waterfront revetment shall be provided in all new development, rehabilitation or addition projects...*



*Chapter III F.5b. Opportunities may be available in the future to make several circulation system improvements in Coleman Drive to enhance public access and recreation...Potential improvements include realigning Coleman Drive away from the water's edge in order to provide more beach area, safer pedestrian access, and to enable better integration of Coleman Park and the shoreline.*

*Chapter III D.10. Uncontrolled and undirected shoreline access has, over the years, resulted in resource damage to the sand dunes paralleling the beach. Dune vegetation has been trampled and lost and the dunes themselves have eroded away. Fragile native plants and wildlife habitat have been lost. There is an urgent need to control and direct access, and restore, as far as possible, the former dune habitat.*

#### b. Access Analysis

The proposed pedestrian boardwalk, dedicated non-motorized bicycle path, roadway realignments, and appurtenant development will occur on City property and is for specific purpose of expanding and enhancing public access and low-cost recreational opportunities along the Morro Bay shoreline. Coastal Act policies demand that maximum public access and low-cost recreation facilities be protected, encouraged, and provided. The creation of dedicated pedestrian and bicycle paths from Beach Street to Morro Rock will further Coastal Act goals in Morro Bay. The 8-foot wide pedestrian boardwalk is adequately sized to handle a large number of pedestrians, while the dedicated Class I bicycle path is designed to accommodate two-way, multi-modal traffic (e.g., bikes, skates, kick-scooters, etc.) with a minimal amount of user conflicts. The development will improve access and increase visitor-serving uses at this location by providing non-motorized transportation alternatives while fulfilling an important link in continuous lateral shoreline access in Morro Bay. Together with the proposed benches, ADA ramps, safety railing, parking, interpretive signing, etc., the project will make the northern end of the bay more accessible, educational, and fun for a wider variety and greater number of users. The proposal was silent regarding availability and hours of use, so staff is recommending Special Condition 3 that requires the Applicant to develop an access signing plan program that identifies the improvements as being "public" and available for public use 24 hours per day, at all times during the year.

The second goal of the project was to create a larger recreational area in the northeastern corner of the bay. The City's certified LCP recommends realigning Coleman Drive to facilitate expansion of the existing recreational use area with better integration of Coleman Park and the shoreline. The existing Coleman Drive alignment does not maximize public access, it essentially creates two isolated access units separated by a moderately traveled roadway. Coleman Beach is a small pocket cove beach popular with kayakers in the northeastern corner of the bay. Coleman Park is located across the road and a bit west from Coleman Beach. It is improved with a skate park, restrooms, and informal public parking. The park begins just beyond the bend in Coleman Drive and as such, access to the shoreline requires a potentially dangerous jog across the road. Accordingly, it is not well used for this purpose. The skate park does attract a fair bit of traffic as does the public restroom, but given its size and proximity to the shoreline, Coleman Park is under-utilized.



The undeveloped area generally east of Coleman Beach provides much of vehicle parking for access to this small sandy beach. Gaining access requires negotiating traffic and scrambling down one of a series of informal trails leading down the embankment to the waters edge. This too can be a dangerous proposition, but it is the shortest route to the beach, and so, it is well used.

The proposed Embarcadero Road extension in combination with the Coleman Drive relocation will create a larger public recreation area while vastly improving public safety. In general, the roadways will be relocated further back from the waters edge freeing up additional lands for access and recreation. Embarcadero Road will be extended along its current orientation approximately 700 feet. The existing dog-leg that connects Embarcaero Road with Coleman Drive will be removed and Coleman Drive relocated approximately 105 feet north to the rear of Coleman Park. This alignment places the roadway and motor vehicles on the outside of the public recreation area as opposed to right through the middle of it. Relocating the roadways will create approximately 4.5 acres of contiguous public lands available for public access and low-cost visitor-serving recreational amenities. The typical user conflicts between pedestrian, bicycles, and motor vehicles will be eliminated, as well as the need to cross the road to access the shoreline. Notwithstanding all of the public benefits associated with improving and expanding the public recreation area, the project did not include an assurance that access to this newly created recreational area would remain free and unrestricted. Accordingly, Special Condition 3 also requires the newly created parking area adjacent to the Duke Energy intake structure and any parking in the expanded Coleman Park, remain free and unrestricted (i.e., no time limits) for the life of the development. As conditioned, the proposed public access improvements including realignment of the roadway is consistent with the certified LCP policies and Coastal Act access and recreation policies.

### c. Access Conclusion

The proposed project is consistent with the applicable LCP and Coastal Act policies and standards. The project will further these policies because it will improve public access and low-cost visitor-serving amenities by expanding pedestrian and bicycle access along the shoreline from Beach Street to Morro Rock. The project will enhance access and recreation opportunities by providing two-way, multi-modal and non-motorized transportation routes capable of accommodating a greater number of persons including those with disabilities. It will expand and improve existing recreational amenities by integrating Coleman Park with the shoreline and Coleman Beach, and will eliminate user conflicts and improve public safety. As such, the Commission finds the proposed project, as conditioned, is consistent with the certified LCP and the Access and Recreation policies in Chapter 3 of the Coastal Act.

## 3. Water Quality

### a. Relevant Regulatory Policies

The following Coastal Act policies addressing water quality are most applicable to the subject proposal, and state, in part:



*Section 30231. The biological productivity and quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum population of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment...*

#### b. Water Quality Analysis

Development of the proposed project could increase the amount of impervious surfaces in the project area, which would increase the volume of surface water runoff from the project site. Additionally, minor changes in surface flow patterns and volumes of stormwater runoff due to grading and increased impervious surfaces could lead to increase erosion and sedimentation into Morro Bay.

The project involves additional paving for roadway and parking improvements directly adjacent to Morro Bay. The Applicant has indicated that the project will be designed to use natural drainage features and vegetated buffers to filter and infiltrate stormwater runoff prior to conveyance offsite. The sandy composition of the surrounding area lends itself to quickly absorbing runoff. The realigned portions of Coleman Drive and Embarcadero Road will be crowned (i.e., raised at the centerline, sloping downwards to the pavement edge) so that surface flows would disperse to either side and dissipate into the adjacent sandy soils. This project will also result in new impervious surfaces on the proposed bike path and to a lesser degree, the pedestrian boardwalk. The accompanying Class I bike trail will incorporate crowning or sloping to direct storm water to pervious areas able to absorb it, while the boardwalk, since it is comprised of wooden or similar decking, will partly drain through the deck to the earth below. The project has been reviewed by the Commission's Water Quality Unit and it has been determined that no significant changes in surface water patterns or drainage will occur. Moreover, landscaping and revegetation with drought-tolerant native species will reduce, or eliminate, the need for irrigation; only temporary irrigation for plant establishment is proposed.

The project also includes construction of an additional 30+ space parking area north of the Duke Energy Intake structure and directly adjacent to newly expanded Coleman Beach. The Applicant has not yet fully detailed how runoff from the expanded impervious area will be handled. Special Condition 4 is attached that requires submittal of a post-construction drainage plan that requires the Applicant to identify the specific type, design, and location of all drainage infrastructure and best management practices (BMPs) necessary to ensure that post-construction drainage from all roadways, paths, parking areas, and any other impervious areas does not result in erosion, sedimentation, or degradation of coastal water quality.

The Commission therefore finds, as proposed and as conditioned to address water quality issues, that the development will be consistent with Section 30231 of the Coastal Act.

## 4. Visual Resources

### a. Relevant Regulatory Policies

The following policy of the Coastal Act provides for the protection of scenic coastal resources, and



states, in part:

*Section 30251. The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas.*

#### b. Visual Analysis

The project site is located along the shoreline of Morro Bay. The proposed access improvements will connect the extremely popular visitor-serving destination of the Embarcadero with the recreational opportunities originating near Morro Rock. As noted in the findings above, Morro Bay hosts over 1 million visitors annually many of who go to the beach, walk along Embarcadero, or visit Morro Rock – the landmark of the community.

The proposed access and roadway improvements are at-grade facilities, so their visual impact will be minimal. The project also includes symbolic fencing and interpretive signing that will extend above grade, though its purpose is to direct access and educate the public, so some visibility is necessary. However, in order to ensure that the fencing and signs minimize visual intrusion and are compatible with the dune setting, the Commission is recommending Special Condition 1 which requires the Applicant to submit final plans illustrating the overall dimensions of the symbolic fencing and the type of materials to be used. Likewise, the applicant is required to provide a signing detail for the required interpretive displays that will inform the public of the site sensitivities. In addition, the habitat restorations and enhancements along with the additional road and trailside landscaping can only improve the visual experience for pedestrians, motorists, and cyclists alike.

The Applicant has also proposed the removal of three existing overhead cobra-style lights and installation of 8 similar type overhead lights along the Embarcadero Road extension and Coleman Drive realignment. The lighting is proposed to be installed along the dune side right-of-way and will introduce additional lighting and glare into the area proposed for dune restoration. Furthermore, the proposed light fixtures will be visible from many vantages along the Embarcadero, Morro Bay, and the new recreational paths. During the evenings, illumination will create a string of lights extending from the Duke Energy Intake structure to Morro Rock and could interfere with state and federally protected bird species known to nest in and around the area. The lighting is not necessary for vehicle travel along the roadway, though some lighting of the recreational paths may be appropriate. Accordingly, Special Condition 5 is attached that limits lighting to low bollard-style or similar type of lighting for the pedestrian and bike paths. The lights must be low-wattage and directed downward to minimize visual impacts and prevent glare from on adjacent sensitive habitat and Morro Bay. The Commission therefore finds the proposal, as conditioned to address visual resource impacts, is fully consistent with Section 30251 of the Coastal Act.

## 5. California Environmental Quality Act (CEQA)



Section 13096 of the California Code of Regulations requires that a specific finding be made in conjunction with coastal development permit applications showing the application to be consistent with any applicable requirements of CEQA. Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effect which the activity may have on the environment.

As discussed and conditioned herein, the proposed project, as conditioned to avoid and minimize impacts to coastal dune scrub habitat, and temporary construction-related disturbances, and fully mitigate all remaining impacts, will not cause significant adverse impacts to the environment. Specifically, the project, as conditioned, has been found consistent with the sensitive resource, public access, water quality, and visual resource policies of the Coastal Act.

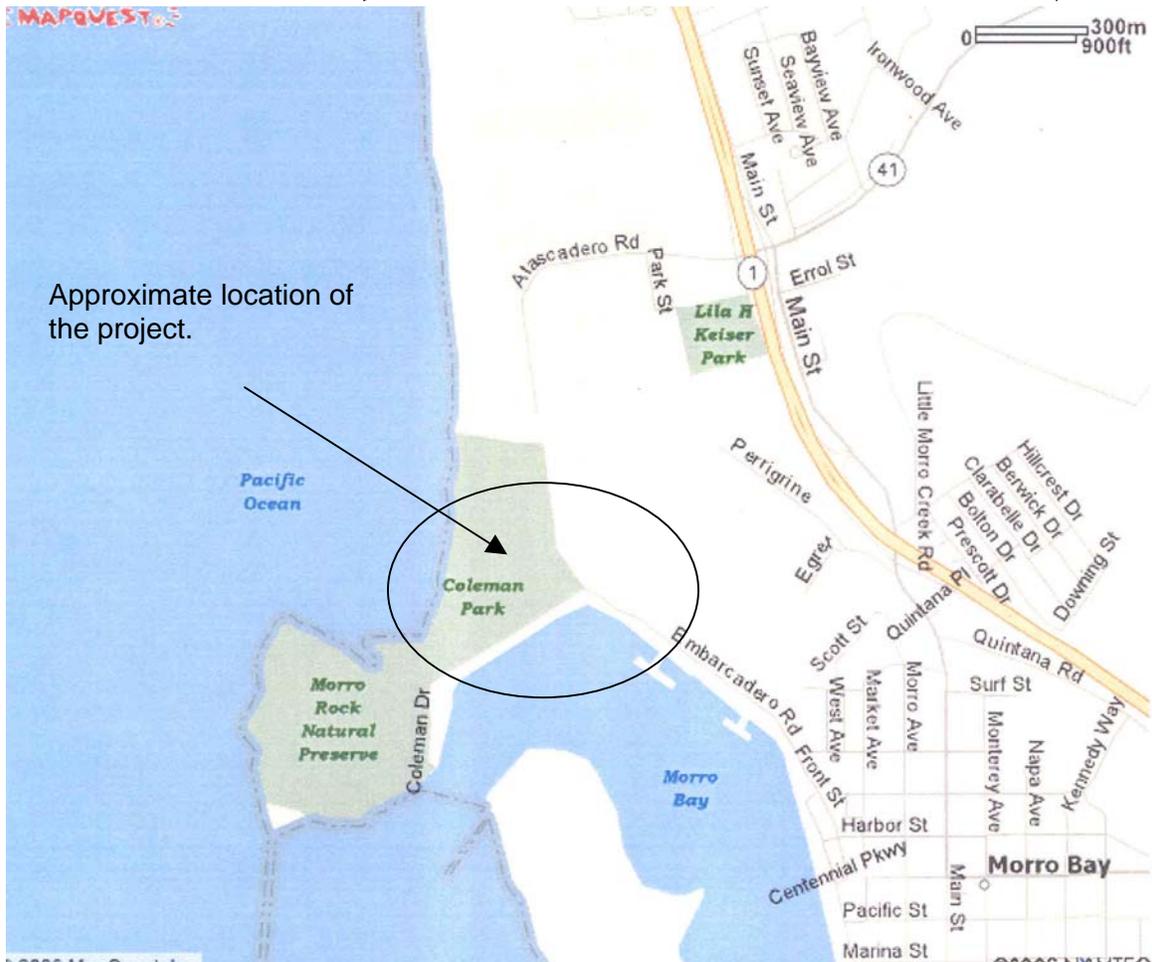
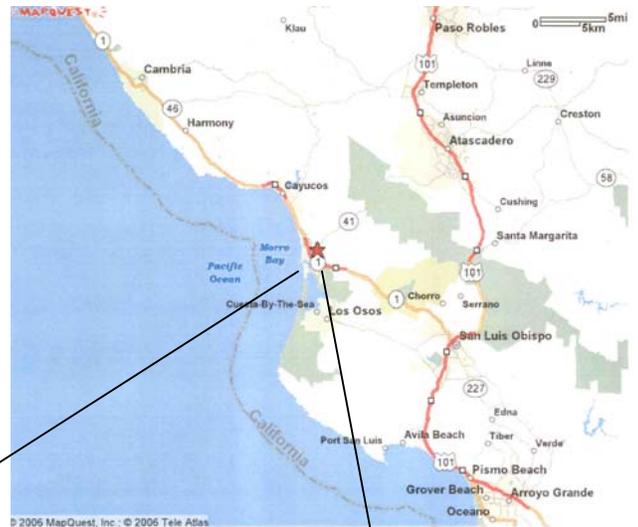
The Coastal Commission's review and analysis of land use proposals has been certified by the Secretary of Resources as being the functional equivalent of environmental review under CEQA. This staff report has discussed the relevant coastal resource issues with the proposal, and has recommended appropriate mitigations to address adverse impacts to said resources. Accordingly, the project is being approved subject to conditions which implement the mitigating actions required of the Applicant by the Commission (see Special Conditions). As such, the Commission finds that only as modified and conditioned by this permit will the proposed project not have any significant adverse effects on the environment within the meaning of CEQA.



# Exhibit A: Location Maps

City of Morro Bay Waterfront

APN 066-461-11



Approximate location of the project.



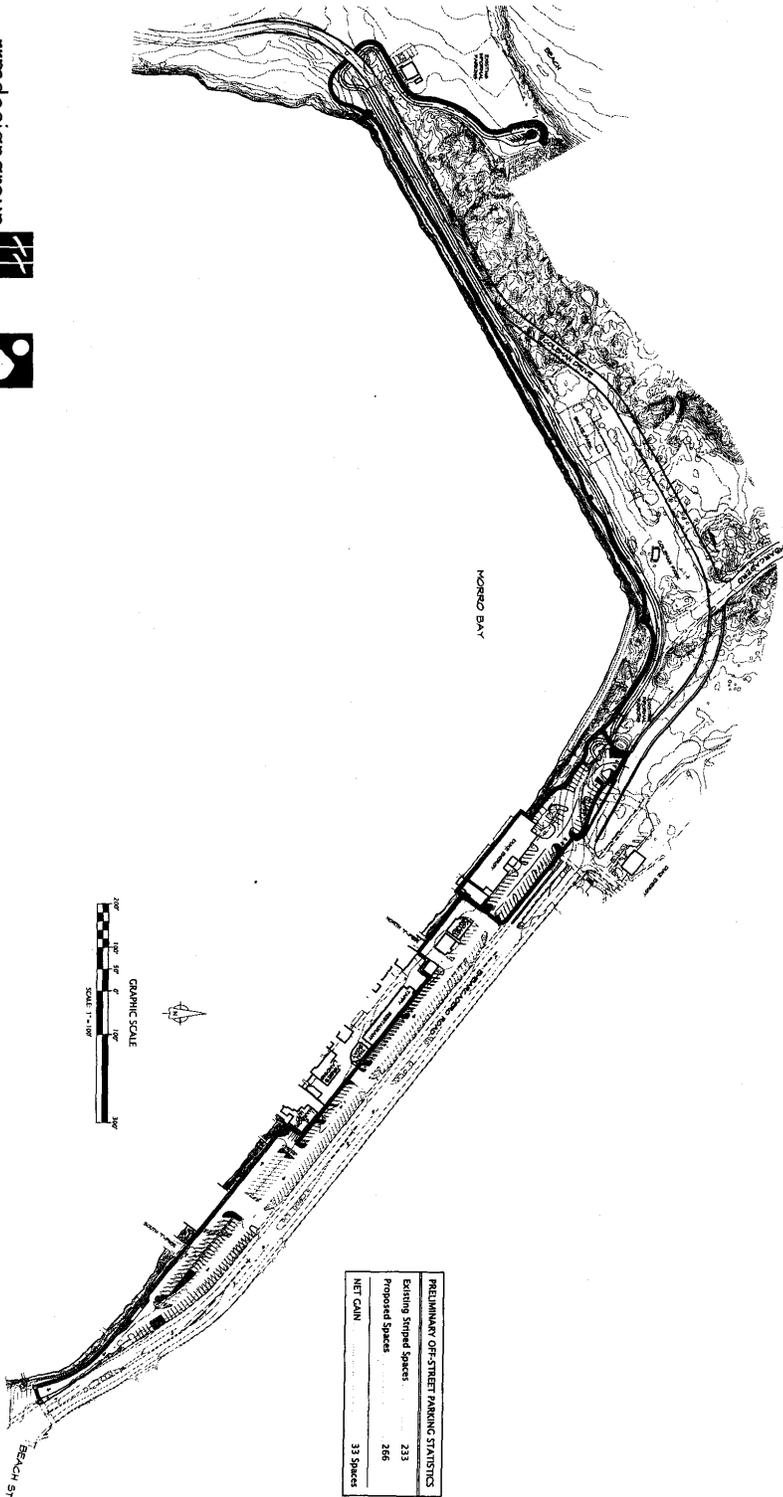
# Exhibit A



Exhibit A: Location Maps  
Application No. 3-05-071  
Page 2 of 2  
Harborwalk Access and Dune Restoration

# Exhibit B: Site Plans

## MORRO BAY HARBORWALK PRELIMINARY DESIGN PLANS



**rm**designgroup  
creating environments people enjoy™  
7000 Lakeside Drive, Suite 1000, San Diego, CA 92121  
Tel: 619.594.1100 Fax: 619.594.1101

  
City of Morro Bay

Morro Bay Harborwalk  
AUGUST 30, 2005  
1305506

**CITY of MORRO BAY, CA**





# Exhibit B: Site Plans

New roadway and parking area north of the Duke Energy intake structure.

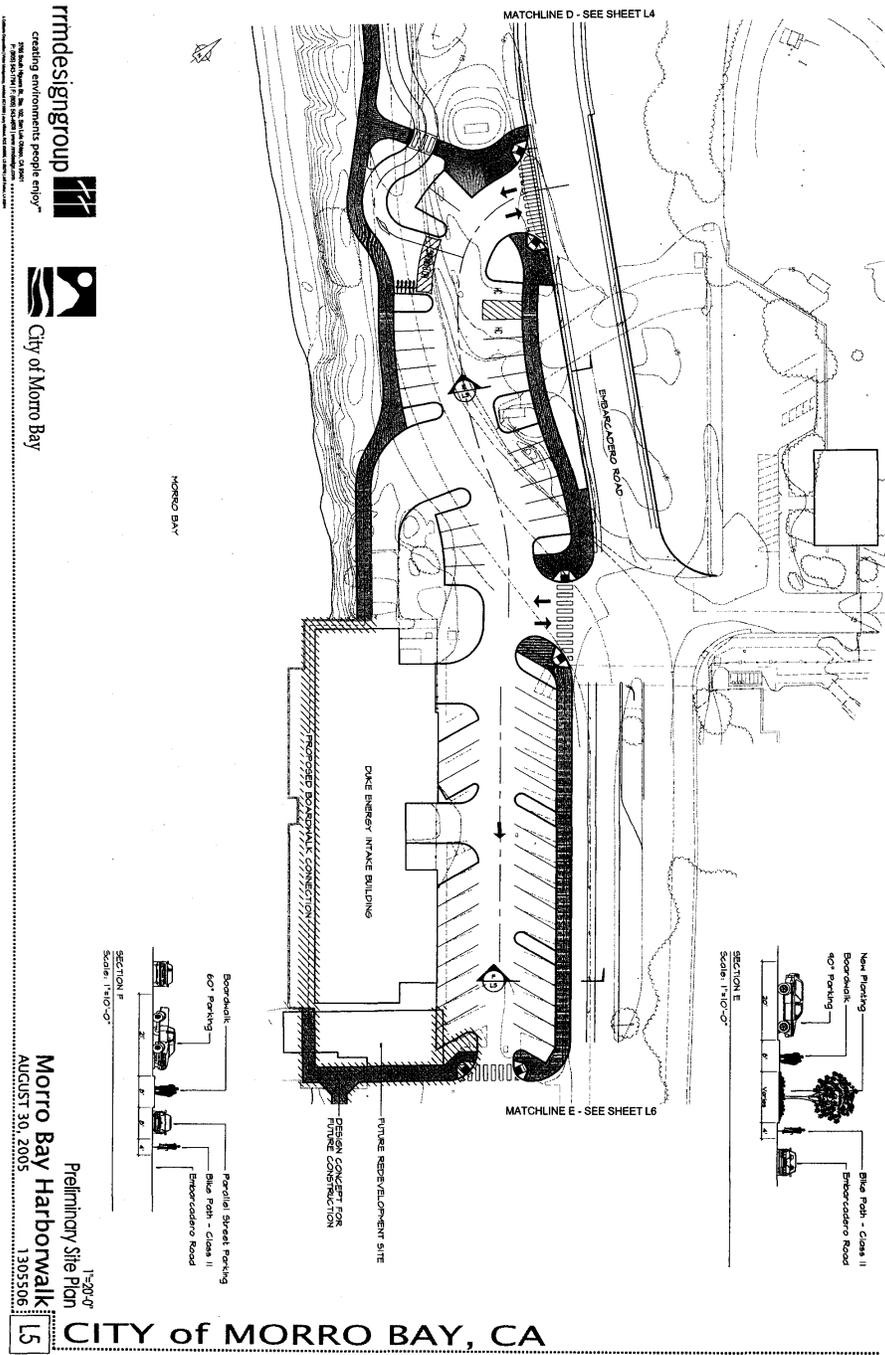


Exhibit B: Site Plans  
Application No. 3-05-071  
Page 4 of 6  
Harborwalk Access and Dune Restoration



California Coastal Commission

# Exhibit B: Site Plans

Pedestrian path along the Embarcadero and commercial fishing T-Piers.

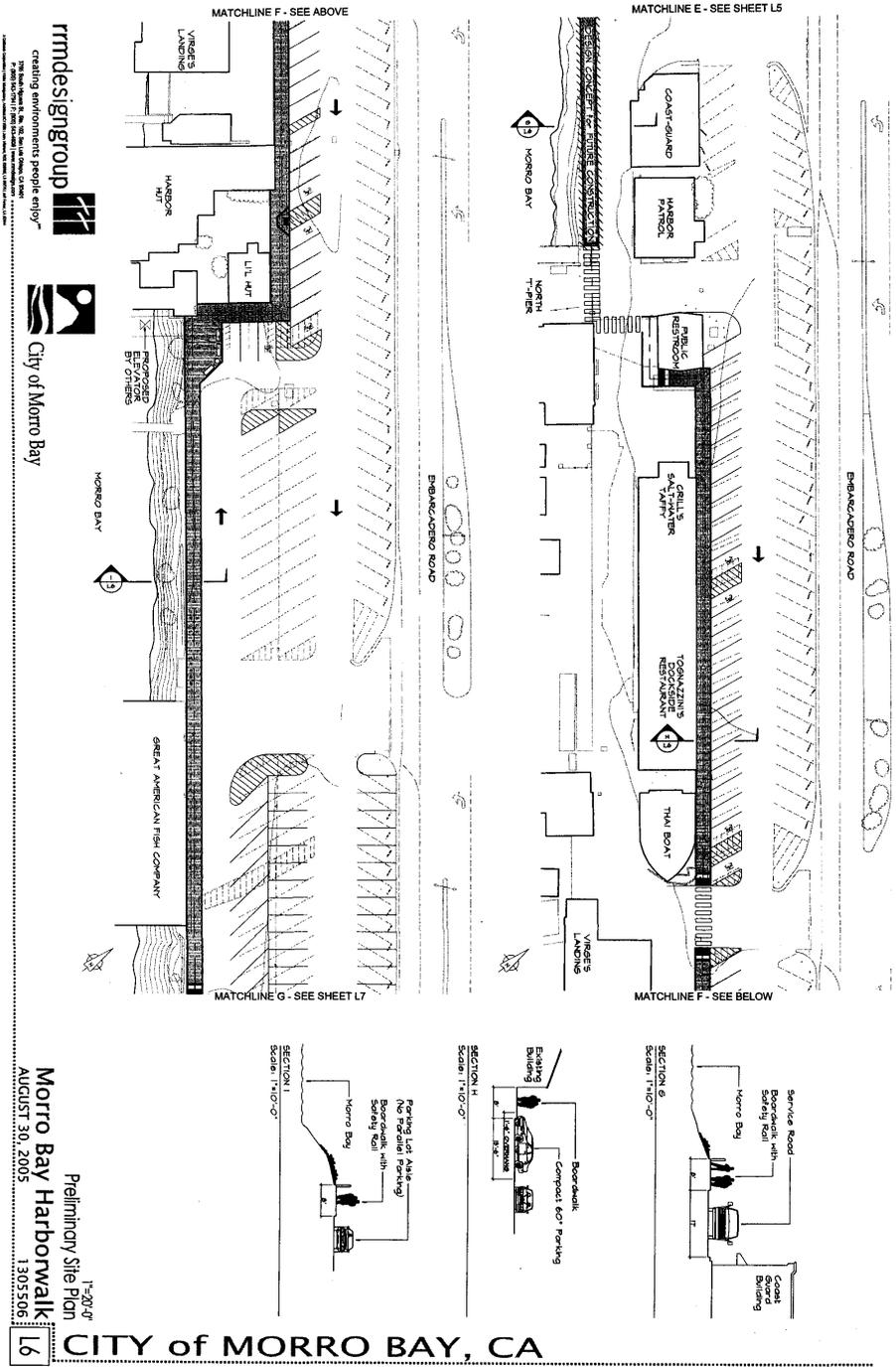
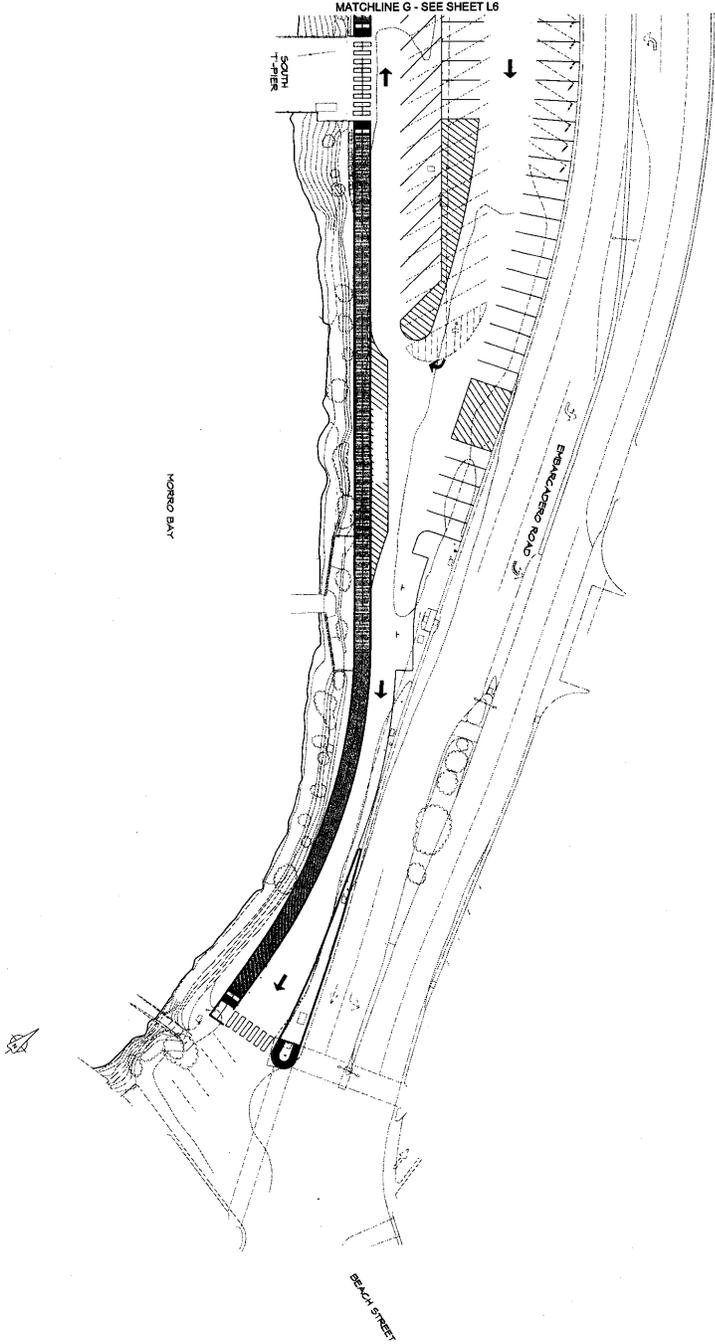


Exhibit B: Site Plans  
 Application No. 3-05-071  
 Page 5 of 6  
 Harborwalk Access and Dune Restoration



Exhibit B: Site Plans

Segment 1 at the foot of Beach Street.  
Pedestrian path begins here.



rrmdesigngroup  
creating environments people enjoy™



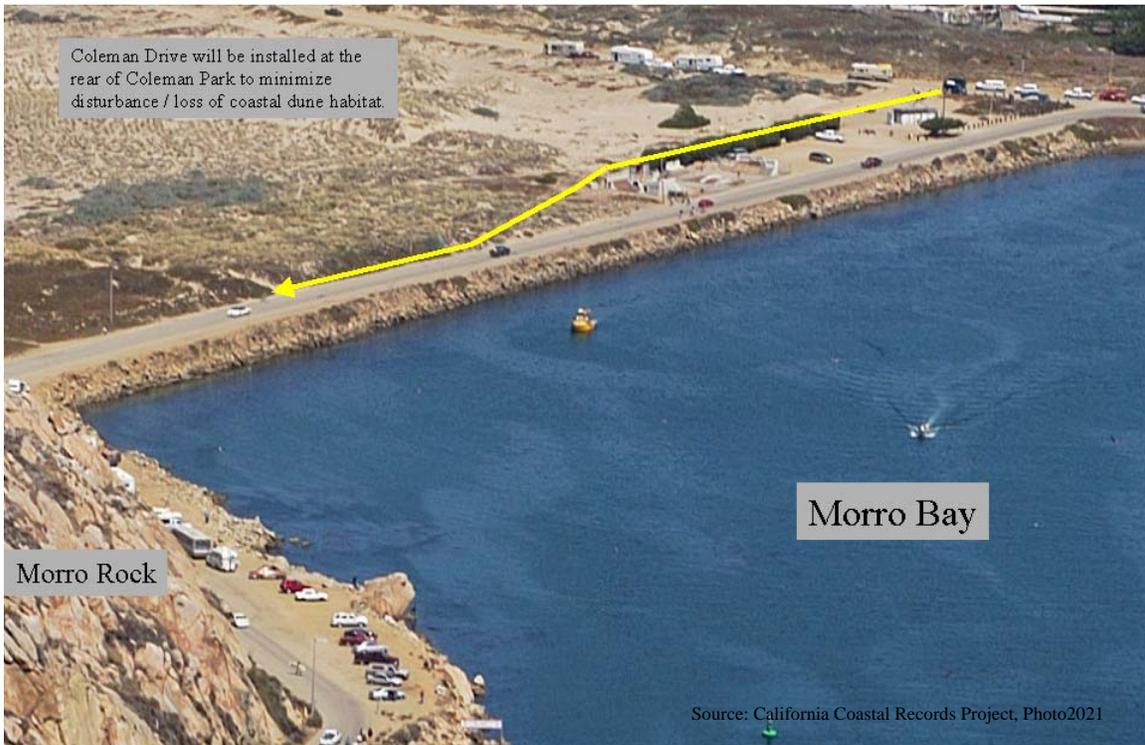
City of Morro Bay

Preliminary Site Plan  
Morro Bay Harborwalk  
AUGUST 30, 2005  
13055306

CITY of MORRO BAY, CA



# Exhibit C: Proposed Roadway Realignment



→ Revised Coleman Road alignment

Exhibit C: Proposed Roadway Realignment  
Application No. 3-05-071  
Page 1 of 1  
Harborwalk Access and Dune Restoration



# Exhibit D

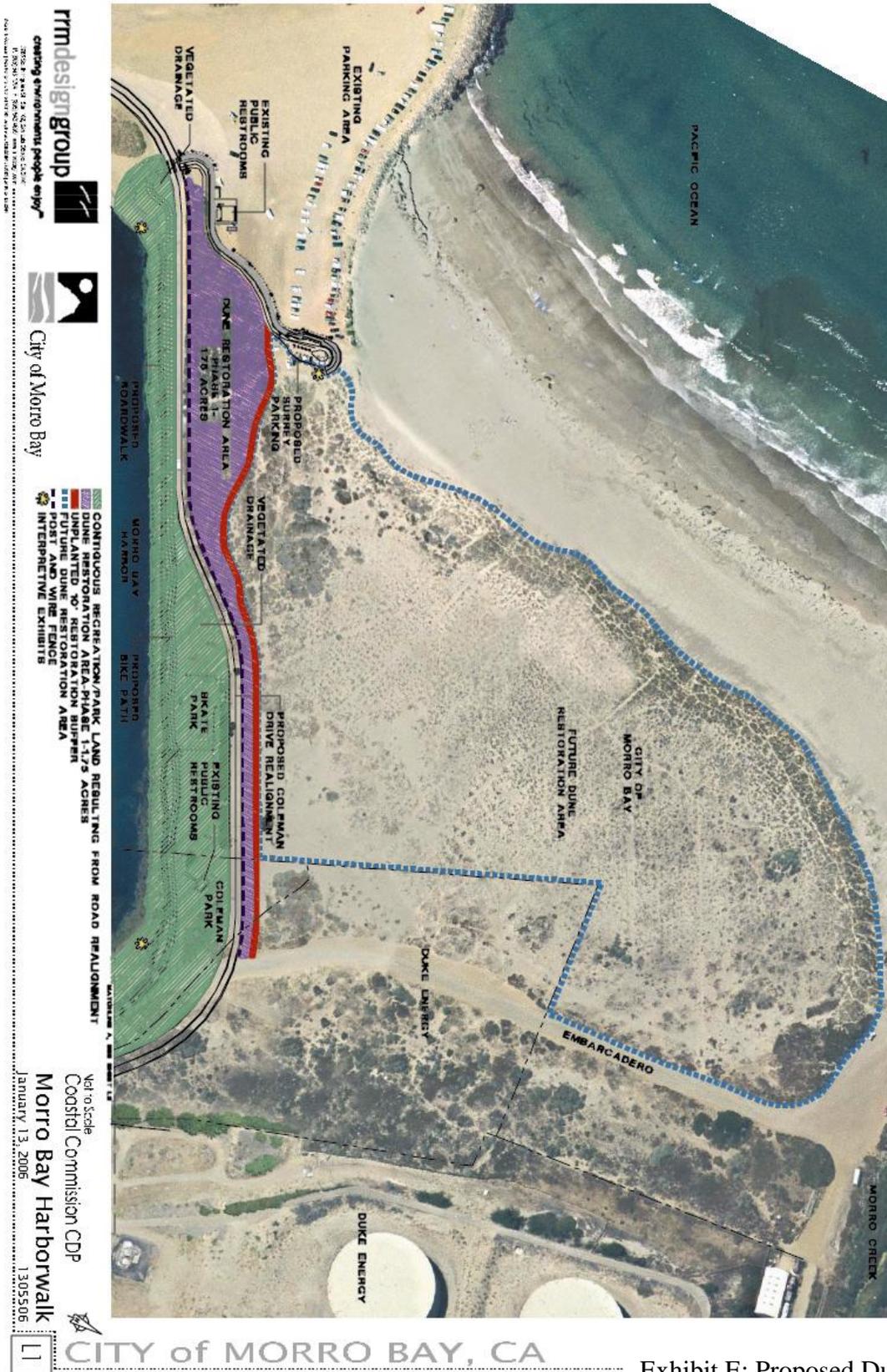
## Project Impact Map



Exhibit D: Project Impact Map  
 Application No. 3-05-071  
 Page 1 of 1  
 Harborwalk Access and Dune Restoration

# Exhibit E

## Proposed Dune Restoration



CITY of MORRO BAY, CA

Exhibit E: Proposed Dune Restoration  
 Application No. 3-05-071  
 Page 1 of 1  
 Harborwalk Access and Dune Restoration

# Exhibit F

## Dune Restoration Area per Special Condition 2



Exhibit F: Dune Restoration per Special Condition 2  
 Application No. 3-05-071  
 Page 1 of 1  
 Harborwalk Access and Dune Restoration



**CALIFORNIA COASTAL COMMISSION**

CENTRAL COAST DISTRICT OFFICE  
725 FRONT STREET, SUITE 300  
SANTA CRUZ, CA 95060  
PHONE: (831) 427-4863  
FAX: (831) 427-4877

**W5b**

## Staff Report Addendum

Date: March 7, 2006  
To: Commissioners and Interested Parties  
From: Steve Monowitz, District Manager  
Subject: Addendum to 2/16/06 Staff Report Prepared for the 3/8/06 De Novo Hearing (Agenda Item W5b) Regarding the Morro Bay Harborwalk Project Between the Embarcadero and Morro Rock in the City of Morro Bay (Coastal Development Permit Application No. 3-05-071)

---

Following the release of the staff report, the City of Morro Bay and other interested parties have expressed concern regarding the recommended conditions of approval (see correspondence regarding Agenda Item W5b contained in the Central Coast District Director's Report). This staff report addendum clarifies and revises the staff recommendation in an effort to respond to the City's comments and maintain consistency with Coastal Act requirements.

### I. Habitat Impacts and Mitigation

#### A. Background

Protection of the sensitive dune habitat within and adjacent to the project site is a key component of the project. As discussed on pages 12 – 17 of the staff report, it is the resource protection elements of the project that makes it consistent with the Coastal Act requirement that new development within environmentally sensitive areas be limited to resource dependent uses. Dune protection and restoration is also needed to meet the Coastal Act requirement that new development avoid significant degradation of habitat values and be compatible with the continuance of the habitat.

Accordingly, a Dune Habitat Protection Restoration and Management Program (attached)<sup>1</sup> was incorporated into the project in January 2006. The submitted plan includes a passed restoration effort beginning with 1.75 acre area immediately adjacent to the project, and restoration of the remaining 18.8 acres of dunes owned by the City as funding becomes available. The recommended conditions of approval require implementation of this plan, and call for greater specificity and expansion of the initial phase of the restoration effort.

---

<sup>1</sup> This addendum incorporates the attached City developed Coastal Access Improvement and Dune Habitat Protection Restoration and Management Program as Exhibit G to the staff report.

## B. City Concerns

### 1. Area of ESHA Impact

The City disagrees with the Commission staff's determination that the area of impact to the east and north of Coleman Park constitutes an environmentally sensitive habitat area (ESHA). The City has expressed concern regarding the designation of this area as ESHA because it increases the amount of land used to calculate impact and mitigation area, and because the implication that such a designation will have on the City's desire to construct a boating access and boating facility repair yard in this area.

The Commission staff has carefully analyzed the biological data available regarding the area in dispute, not only with respect to this project, but also in its review of the Duke Energy Plant Upgrade, and in both cases, concluded that it is a component of the rare and important coastal dune habitat that surrounds the project area, and thus must be considered ESHA. This is consistent with Commission determinations that other areas of disturbed coastal dune scrub habitats of the Central Coast, such as those in Monterey, Sand City, Asilomar, and Los Osos constitute ESHA. Thus, the Commission staff continues to recommend that the permit be conditioned to require further consultation with the Executive Director regarding the precise amount of ESHA that will be impacted by the project in this area, and that the initial phase of dune restoration efforts be increased proportionally.

### 2. Costs Associated with Required Habitat Mitigation and Enhancement

The City has also identified its concern that the cost of restoring the amount of dune habitat required by the recommended conditions of approval will render the project financially infeasible. These conditions call for the dune habitat areas that will be impacted by the project both temporarily and permanently to be restored at a 4 to 1 ratio, which is consistent with the recommendations the Commission has received from the Department of Fish and Game regarding appropriate mitigation levels for the loss of coastal dune scrub habitat in nearby Los Osos.

According to the information developed by the City and attached to the RRM letter of February 7, 2006 (included in the District Director's report), the project will result in the temporary disturbance to 0.22 acre of dune habitat, and the permanent loss of 0.43 acre of dune habitat. According to the proposed Dune Restoration Plan attached as Exhibit D to the staff report, and the description of this Plan attached as Exhibit G to this addendum, the project will provide 1.75 acres of restoration along the northern boundary of the realigned roadway, and maintain a 10 foot wide strip free of exotic plant species to the north of the restoration area. Including the area to the north and east of Coleman Park in the calculation of impacts to dune habitat will approximately double the area of ESHA impact. In total, this would result in about 1 acre of permanent habitat loss, and one half of an acre in temporary habitat disturbance, necessitating the

implementation of approximately six acres of dune restoration in conjunction with project implementation.<sup>2</sup>

In recognition of the significant costs associated with the implementation of a rigorous long-term six acre dune restoration and management program that includes the planting of native species, weed removal, and on-going maintenance, and in the interest of preserving the financial viability of the project and the improved access opportunities and habitat protection that will result from project implementation, the Commission staff has revised the recommended conditions of approval to distinguish between the amount of restoration area that must be revegetated with native plants, and those areas that must be maintained in a weed free condition, during the first phase of the Dune Protection Restoration and Management Program. Specifically, as revised below, the conditions require planting and restoration of all dune areas that will be temporarily disturbed during project construction (approximately 0.5 acre), and a minimum dune restoration and planting area of 1.75 acres (as proposed by the City). The remaining first phase of restoration area (approximately 4.25 acres) must be eliminated of exotic plant species and maintained in a weed free condition. This will help reduce the potential for weeds to invade the planting areas, allow for the native seed stock to naturally propagate, and facilitate future implementation of the second, larger phase of the proposed restoration program, which as recognized by the conditions, must be implemented as funding becomes available.

### 3. Timing of Other Agency Reviews

The recommended conditions of approval contained in the staff report require the input of other responsible agencies (i.e., State Parks, Department of Fish and Game, and US Fish and Wildlife Service) regarding the first phase of the dune habitat restoration plan prior to the issuance of the permit. The City is concerned that the timeline associated with such reviews will delay the start of project construction, which has been timed to preserve project funding. To address this concern, the recommended conditions are revised below to require that such input be obtained and addressed prior to the implementation of the Dune Protection Restoration and Management program, which must be initiated in the first fall season following the commencement of project construction.

### 4. Interpretive and Access Management Signs

The City has requested that the interpretive and access signs required by the recommended conditions be distinguished as two separate signage programs, as necessary to recognize that the access signs will be installed once the pathways and roadways have been constructed, while the design and installation of interpretative signs will require additional time in order to allow for coordination with the National Estuary Program. The requested clarification has been accommodated in the revised conditions below.

---

<sup>2</sup> An exact calculation of total area of impact and mitigation is required by the Special Conditions of approval.

5. Staff Report Revisions

Special Condition 1(f) is revised as follows:

- (f) Access Management Signs.** The final plans shall detail the type, design, location, and content of the signs that will be installed to educate the public about the area's native habitats, identify the location of established vertical and lateral coastal access routes, and discourage uses and activities that degrade and damage these habitats. The signing shall be used in conjunction with the symbolic fencing required above to manage access and installed at the following locations: at the pedestrian and bike trailhead near the Duke Intake Structure; at the intersection of Coleman Drive and Embarcadero Road; at various intervals along the pedestrian path; the bike and surrey parking lot at Morro Rock; and at the informal parking lot south of Morro Creek. Additional interpretative signs within the project vicinity may be proposed and installed at a later date, provided that their design, content, and location are approved by the Executive Director.

Special Condition 2 is revised as follows:

2. PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit to the Executive Director for review and written approval, a final Dune Habitat, Protection, Restoration and Management Program that is in substantial conformance with the draft Program prepared by RRM Design Group, dated January 2006, and that includes the following:
- (a) A precise assessment of the total quantity of sandy dune habitat areas that will be impacted, both temporarily and permanently, by project construction. This shall include the sandy area directly adjacent to and north of Coleman Park, as well as the areas along the Embarcadero Road extension north of the Duke Energy Intake structure.
  - (b) An expanded restoration and mitigation component that details the precise quantity and location of the first phase of dune planting and restoration activities that will be implemented in conjunction with project construction. At a minimum, the first phase of dune planting and restoration shall include all dune habitat areas temporarily disturbed during project construction, and cover an area of at least 1.75 acres within the designated restoration area. In addition, the first phase of restoration shall provide for the removal of exotic plant species within the habitat areas directly adjacent to the dune planting and restoration areas, to an extent that provides an overall restoration

area that is four times larger than the area of impact calculated in accordance with section (a) of this condition. In addition, the restoration and mitigation program shall identify:

- The type and location of seeds that will be collected and propagated for use in the dune planting and restoration area;
- The application rate (e.g., pounds per acre) for seeding efforts; and
- Designation of a qualified biologist to supervise the restoration effort.

The final Dune Habitat Protection Restoration and Management Plan approved by the Executive Director shall be reviewed by the California Department of Parks and Recreation, California Department of Fish and Game, and the US Fish and Wildlife Service. Implementation of the Program shall not commence until all necessary approvals or authorizations from these agencies have been obtained, and until the City has responded to the comments of these agencies to the satisfaction of the Coastal Commission Executive Director. Implementation of the first phase of the Program shall be initiated no later than the first fall season following the commencement of project construction, and all plantings and initial exotic plant removal associated with Phase One of the Program shall be completed within a three year period.

## II. Embarcadero Expansion Roadway Width

The City has indicated its opposition to the requirement that the extension of the Embarcadero roadway be limited to a width of 22 feet, on the basis that, at some time in the future, the City would like to improve the Embarcadero extension, and include adjacent bike paths, for an overall width of about 32 feet. In light of this future project, the City would like to construct the portion of the Embarcadero extension as part of this project to the same dimensions.

Several problems are raised by this proposal. First, it will increase impacts to adjacent dune habitats beyond that which is necessary to accommodate the currently proposed project. Second, the proposed future improvements were previously considered and by the Commission and recommended for deletion in the Commission's comments to the California Energy Commission regarding proposed upgrades to the Duke Energy Facility. Third, it is premature to assume that the Commission will approve the future roadway expansion, particularly in light of its ESHA impacts and prior reviews. Therefore, the Commission staff is not in support of the City's request to allow the Embarcadero extension to be constructed to a width of 32 feet

## III. Roadway Lighting

The City also opposes the recommended prohibition against lights along the relocated roadway, asserting that such lighting is necessary for public safety. The City has not, however, presented any basis for concluding that lighting of the roadway is a true public safety need. Given the impacts that such lighting will have on adjacent habitats and views of the nighttime skies, the Commission staff continues to recommend that project lighting be limited to low level bollard lights along the pedestrian and bicycle paths only.

#### IV. Parking Restrictions

Finally, the City has requested that recommended Special Condition 3 be clarified to reflect the City's prohibition against overnight parking, and the occasional closure of parking facilities for special events. Special Condition 3 simply requires project facilities to be available for public use at all times, and does not prevent the City from enforcing existing ordinances that are designed to prevent people from camping out in their vehicles on an overnight basis. Nevertheless, in order to clarify this issue and accommodate limited temporary closures of parking areas for temporary events, staff has revised Special Condition 3 as follows:

3. **Public Access.** Permittee shall ensure the public access components are constructed in conformance with the approved final plans, and will be available for public use in perpetuity. Specifically, the pedestrian boardwalk, bike trail, and all associated connections, as well as the parking adjacent to adjacent to the Duke Energy intake building and the City's commercial fishing T-Piers, shall be open and available for free general public use 24 hours a day, 365 days of the year for the life of the development, with the following exceptions:
  - The City may continue to enforce existing restrictions regarding overnight parking that were legally established as of the date of the Commission's action on this permit, or as otherwise permitted by the Commission pursuant to a future permit or amendment to this permit; and,
  - The City may close the parking facilities on a temporary basis as necessary to accommodate special events, provided that such closures have been submitted for the review of the Executive Director, and that the event has either been determined by the Executive Director to be exempt from coastal development permit requirements or received the necessary coastal development approval from the Coastal Commission.



City of Morro Bay, California

# Harborwalk

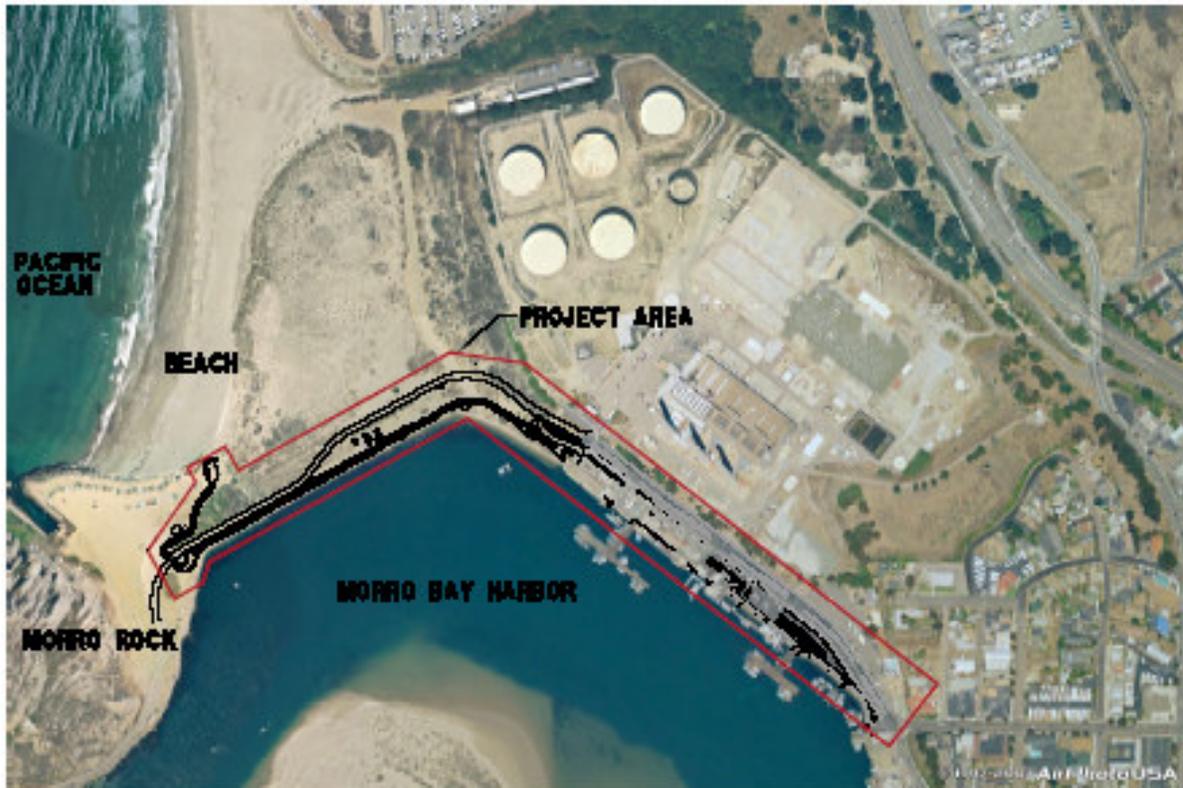
Coastal Access Improvement and Dune Habitat Protection,  
Restoration, and Management Program - January 2006



## Table of Contents

- I Introduction**
- II Harborwalk Improvements**
  - A. Project Features
  - B. Restoration Program
  - C. Future Restoration Projects
- III Dune Habitat Restoration and Resource Management**
  - A. Restoration Program
    - 1. Weed eradication
    - 2. Planting
    - 3. Maintenance
  - B. Monitoring and Management Program
    - 1. Monitoring Standards
    - 2. Success Criteria
      - A. Plant Survival
      - B. Plant Coverage
      - C. Diversity of Species
- IV Appendix**
  - A. Huffman-Broadway Group – Terrestrial Habitat Mapping

## Harborwalk Coastal Access Improvement and Dune Habitat Protection Program



### I Introduction

The City of Morro Bay is embarking on efforts to improve the value of the scenic and recreational access of their waterfront through the protection of their natural environment and improved circulation. The waterfront and more notably the Coleman Drive access to Morro Rock, is a popular destination for many tourists and local citizens. Many people drive, walk and bicycle out to the Rock to access the beach or to park along the road to view the ocean. The current access road is inadequate to handle the mix of circulation uses and unsafe conflicts arise between vehicles and people. Other results are uncontrolled access points which affect the shoulders of the road and dune habitat. The dune area between the beach and road has become degraded by paths created by people to short cut to the beach, partly to avoid conflicts with vehicles on the road. The road shoulders have also suffered in some areas by vehicle parking. The City is proposing to create organized access in the fishing wharf/Morro Rock area to improve safety for the waterfront visitors and provide protection for the dune habitat system.

The City has worked with Coastal Staff to refine the design and alignment of Coleman Drive and recreational access routes to create an efficient and safe access design for the mix of pedestrians, bicycles, and cars. The

original alignment submitted to Coastal Staff was revised by the City to create the least possible permanent impact on dune habitat which now measures 0.4 acres (see Appendix for habitat mapping). The improvement has decreased potential dune impacts by 1.8 acres. As a part of this project the City will launch a phased restoration effort beginning with a 1.75 acre area adjacent to the road realignment. The remaining 18.8 acre dune system under City ownership will be targeted for future restoration as funding becomes available. The program for dune protection, restoration and resource management is outlined in this document to provide the basis of intent for this project and future restoration efforts.

## **II Harborwalk Improvements**

### **A. Project Features**

The Harborwalk project begins on the north end of the Embarcadero near Beach Street and incorporates a new boardwalk to provide defined pedestrian access along the working fishing wharves. The boardwalk will continue north and turn into Coleman Drive along the harbor to provide a pathway to the beach area north of Morro Rock. A parallel bike path will allow bicycles and surreys to travel alongside the pedestrian boardwalk. Surrey and bicycle parking is provided at the beach terminus. To allow for this separate path system, Coleman Drive was realigned to the north side of the City's Coleman Park and rejoins its original alignment at the access point to the beach parking area.

The road realignment allows a separate circulation system for pedestrians and bicycles increasing safety and a more enjoyable experience. The road is aligned with the northern boundary of the park to minimize encroachment into the adjacent habitat. Low transparent fencing (post and wire) will run along the dune side of the road to provide a protective boundary demarcation to keep pedestrians from walking through the restoration area. The boardwalk will eliminate most of the previous foot traffic through this area by providing a preferred route to the beach.

One important benefit of the realignment is the creation of 4.6 acres of contiguous recreational space on the south side of the park providing connection to a small popular beach, named Mother's Beach by locals. This new pedestrian connection will allow safer access to this beach and park without crossing the road.

Interpretive exhibits are proposed to accompany the Harborwalk trail and will include information to promote public awareness and care of the unique local environment.

### **B. Restoration Program**

The restoration program is planned as a phased commitment by the City to restore the health and stability of this habitat area. The initial restoration effort included in this project will set the protocol for the remainder of the site. The local community and high school participated in the restoration project north of this site in the Cloisters dunes beginning in 1996 - 2002. The program was highly successful and the habitat today is a healthy and vital native habitat. This restoration program will be modeled after the Cloisters restoration in method and implementation.

The Restoration team will enlist a qualified biologist who can work with volunteers and students in the tasks of native seed collection, propagation, and planting. Weed removal with herbicides will be performed by a qualified professional, while any weed removal by hand will enlist volunteers. A greenhouse facility may be located in a nearby site to allow propagation of native plants.

Monitoring and maintenance of the restoration effort will continue until the success criteria is met or a maximum of 5 years.

### **C. Future Restoration**

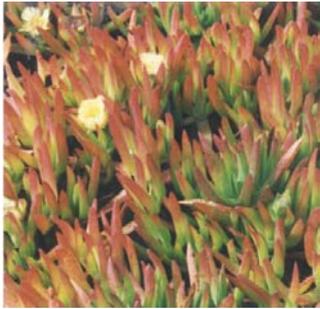
The City owns approximately 18 .8 acres of dune habitat on two adjacent parcels and is establishing this area for future restoration. The City will be working with local interest groups and the high school to establish a long term restoration program and to secure funding for this effort. Funding sources may become available through grant opportunities, private donations, educational programs, or City funds. The high school may establish a curriculum with lab experience to allow students to learn through a hands-on opportunity in the restoration process. The Cloisters restoration project employed high school students for summer work programs which resulted in encouraging some students to pursue higher education in the science field.

### III Dune Habitat Restoration and Resource Management

#### A. Dune Restoration Program

##### 1. Weed eradication

The removal of exotic plant material is key to the success of the restoration. The main species targeted for removal will be Ice Plant (*Carpobrotus* sp.) and European Dune Grass (*Ammophila arenaria*).



Ice Plant



European Dune Grass



Dune Grass Hand Removal

**Ice plant** removal consists of a two part process. The plant is sprayed with an herbicide and left in place. The plant will wither and die, but continue stabilize the sand surface. Planting and seeding will be performed though the dead material. Some of the dead material may be thinned during planting to allow room for new native plant growth.

**European Dune Grass** removal has successfully been accomplished through a series of herbicide applications. The density of grass in this location is not thick, so the approach would be to leave the dead grass in place. Thicker areas should be thinned to create small openings for native planting. Successful seeding through dead plant material has been experienced with this species as well.

##### 2. Planting

Plant species indigenous to the local dune habitat will be selected by a qualified biologist. Seeds will be collected locally and propagated for planting in the restoration area. Some seeds will be broadcast directly into the soil as certain plant species respond well to this application. Others will be grown to a suitable size and planted as seedlings or gallon size plants.

Seeding will occur prior to seasonal rainfall to enlist the rain in germination. Other supplemental watering methods such as solid gel irrigation products (Driwater) may be enlisted to ensure that the plants survive until seasonal rainfall can sustain the plants.

## Typical Plant Palette for Restoration:

<u>Botanical Name</u>	<u>Common Name</u>
Achillea millefolium	common yarrow
Ambrosia chamissonis	beach bur
Artemesia californica	California sagebrush
Cammisonia cherianthifolia	beach evening primrose
Ericameria ericoides	mock heather
Erigeron glauca	seaside daisy
Eriogonum parvifolium	beach buckwheat
Eriophyllum staechadifolium	golden yarrow
Lotus scoparius	deerweed
Lupinus chamissonis	silver bush lupine
Salvia mellifera	black sage

The palette will be refined by a biologist with specific study of this area of dune system with respect to topography, wind, and coastal influence.



Native Seed Collection



Propagation



Planting

### 3. Maintenance

Maintenance measures will be determined by routine monitoring of the restoration success. Typical maintenance requirements expected are plant replacement or reseeded, supplemental watering for establishment, and weed removal.

The long-term goal for maintenance is to eliminate any non-native plants and allow the native vegetation to become established and naturalized. To assist in protection of the restoration planting a 10' unplanted zone will be established along the restoration area boundary. This buffer zone will keep weeds from spreading into the new native planting and reduce competition for survival.

## **B. Monitoring and Management Program**

### **1. Monitoring Standards**

Prior to beginning the restoration, a biologist shall begin a monitoring log to establish the initial condition of the site. The biologist shall update the monitoring log annually for 5 years and make recommendations for any remedial actions which may be required to achieve the success criteria.

The monitoring log shall include:

- Photographs of the area at the time of monitoring
- Monitoring methods, dates and persons involved in observing
- Comparisons of collected data to the success criteria
- Discussions of all problems encountered and probable reasons why success criteria was not attained
- Discussions of all activities conducted to remediate planting areas which failed to meet success criteria
- Recommendations to minimize future mortality, excessive weeds, slow plant growth and impacts

Areas not meeting the success criteria below shall require remediation. Remediation may include weed eradication, reseeding, and repair of damage associated with trespassing. Plants shall be replaced as needed in the same location and with the same species when possible. If this species is not available, another species in the same plant community may be substituted.

### **2. Success Criteria:**

The following list of criteria shall be used to rate the success of the mitigation areas.

#### **A. Plant Survival**

- Definition: The native plants have achieved a minimum annual survival rate and not exceeded the mortality rate criteria.
- Criteria: An annual mortality rate not to exceed 20% the first year, and 5% the following years.

#### **B. Plant Coverage**

- Definition: The plants have steadily increased, and over time will completely cover the mitigated areas.
- Criteria: Attain 75% cover with native species within 3 years, and 90% within 5 years.

#### **C. Diversity of Species**

- Definition: Native species initially planted are established and flowering, setting seed, and spreading out from the initial parent plants, and a variety of species exist in the site area.
- Criteria: Maintain at least 80% of the number of native species planted within 3 years, and 90% within 5 years.

Example transect monitoring record from the Cloisters Restoration Project beginning in 1997.



Transect One - Cloisters October 1997



Transect One - Cloisters February 1999



Transect One - Cloisters June 2001

## **IV Appendix**

### A. Huffman-Broadway Group – Terrestrial Habitat Map

